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Published Unexamined Utility Model Application S52-144761

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Utility Model Registration Application

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Japanese Patent Office Director: Katayama, Ishiro

1. **Name of Device**: Measurement Vessel for Dilutable Solute

2. **Name of Creator**:
Same as Utility Model Registration Applicant

3. **Utility Model Registration Applicant**:

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[[*hand stamped*]] JPO 4/28/76

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Formality Check – Yamada

[[*application number*]] 51 053161

Specification

1. **Name of Device**:

Measurement Device for Dilutable Solute

2. **Scope of the Utility Model Claims to be Registered**

A measurement device for dilutable solute that comprises a main vessel body containing a measuring component constructed of a transparent material and formed in the shape of an inverted cone with an open upper end, the diameter of said cone increasing from its base upward; and a number of graduation markings marked on the sloped surface of the measuring component of the main vessel body, these graduation markings being arranged such that the volume of a solute in the measuring component of the vessel can be adjusted in reference to solvent to solute mixing ratios for various fixed volumes of solution.

3. **Detailed Description of the Device**

The current device relates to a measuring vessel for dilutable solutes. The current device can be used to measure solutes that require dilution before use, such as agricultural chemicals in concentrated liquid or powdered form.

Liquid or powdered concentrates such as agricultural chemicals typically require dilution at a fixed ratio with a solvent such as water. The traditional method for carrying out this dilution required that a fixed amount of solute (liquid or powdered concentrate) first be measured out, then the appropriate volume of a solvent, such as water, be calculated based on the stipulated fixed mixing ratio. Alternatively, starting with a fixed volume of solvent, the corresponding volume of liquid or powdered concentrate could likewise be calculated. This conventional method, however, was often time consuming and could result in problems such as ending up with a volume of diluted solution too small relative to the tank in which the solution was being held, requiring the mixing of additional solution; or the converse difficulty of arriving at too great a volume of diluted solution, leading to the problematic question of how to dispose of the excess solution.

The current device intends to eliminate these problems by providing a measuring vessel for dilutable solutes that is made of a material such as glass and that is formed in the shape of an inverted cone such that the vessel will allow for easy and accurate measurement of solute through reference to provided graduation markings showing the amount of solute required to mix various fixed quantities of solution at various fixed solvent to solute ratios.

The following is a description of an embodiment of the current device, made with reference to the attached illustrations.

The main vessel body 1 comprises a measuring component 3, made of a transparent material such as glass or synthetic resin, and formed in the shape of an inverted cone with an upper opening and a diameter that increases from the component's base upwards; and a thick,

stable, circular base 2, on which the measuring component 3 stands upright, the base 2 and the measuring component 3 being integrally formed.

When a solute in liquid or powdered form is mixed into solution with a solvent such as water to make a predetermined volume of diluted solution, solvent to solute mixing ratios of, for instance, 500 to 1, 1000 to 1, 1500 to 1, or 2000 to 1 are typically called for. The current device provides mixing ratio graduation markings 4 on the sloped face of the measuring component 3, those graduation markings being positioned to correspond with the amount of solute required to mix various fixed volumes of diluted solution at various fixed solvent to solute mixing ratios, such as those ratios listed above.

On the sloped face of a single measuring component 3, multiple vertical graduation areas, such as 5 through 7, can be provided to accommodate mixing ratio graduation markings 4 that are appropriate for arriving at an assortment of final diluted solution volumes – for example, 4 liters, 9 liters, or 18 liters of diluted solution. From among the various vertical graduation areas 5 - 7 on the measuring component 3 of the main vessel body 1, and based on the volume of solution to be mixed and the stipulated solvent to solute mixing ratio, the appropriate graduation marking is selected and the solute to be measured is poured into the measurement component 3 of the vessel until the volume of solute reaches the appropriate graduation marking.

As detailed above, the current device permits easy measurement of the amount of solute needed to mix a fixed amount of diluted solution at a fixed solvent to solute ratio through the simple act of pouring the solute into a vessel that has been provided with a range of graduation markings corresponding to a range of solution volume and mixing ratio requirements. What's more, the open inverted cone form of the measurement component 3 permits accurate measurement of solute and easy reference to graduation markings using a single, reasonably sized vessel, even when the solvent to solute mixing ratio is very large or very small; it also allows easy reference to appropriate graduation markings when changes are made in the desired volume of final diluted solution.

4. **Brief Description of the Drawings**

Fig. 1 is a cross-sectional view showing one embodiment of the current device; and Fig. 2 is a development view of the measurement component of the device.

1: main vessel body 3: measurement component 4: graduation markings

Fig. 1

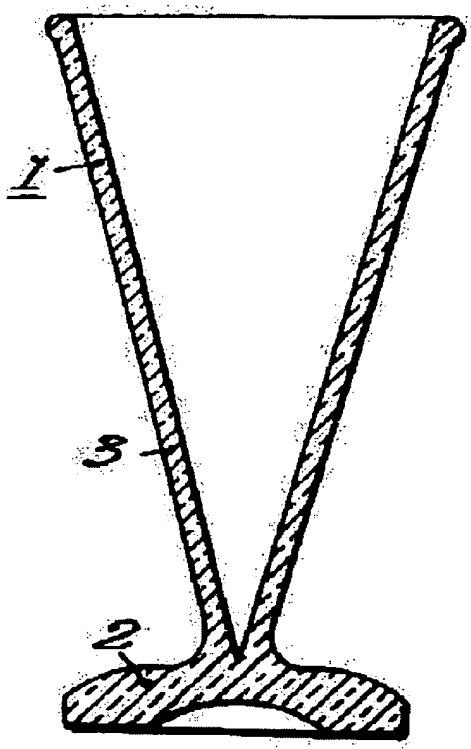
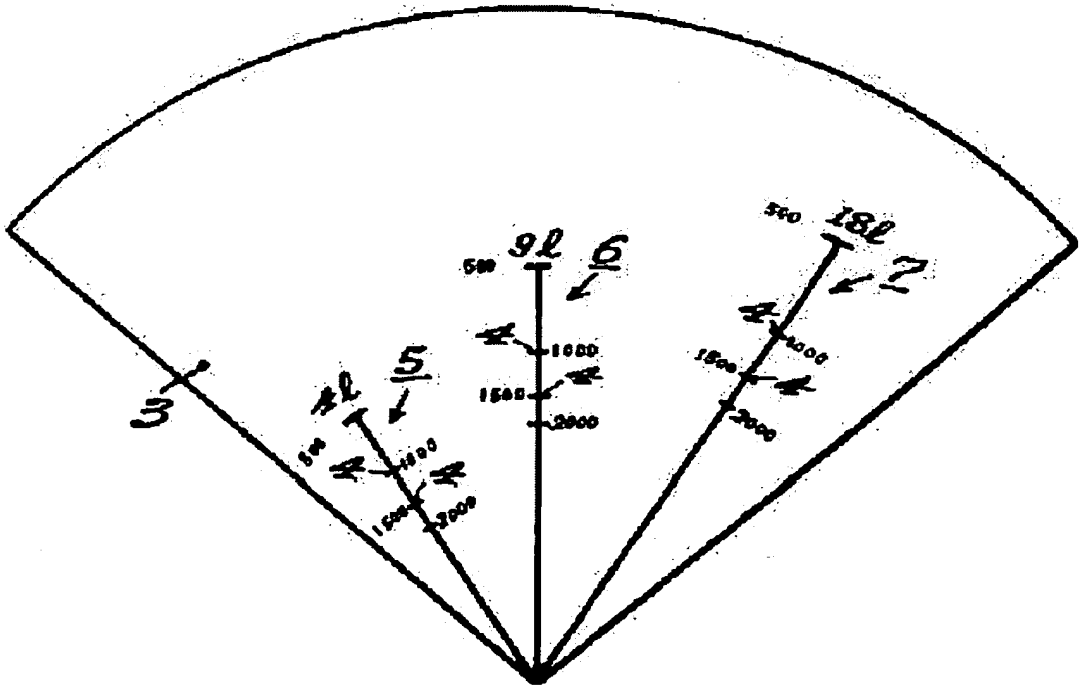


Fig. 2



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144761

5. **Inventory of Attached Documents**

(1)	Specification	1
(2)	Drawings	1
(3)	Power of Attorney	1
(4)	Duplicate of Application	1
(5)	Request for Examination	1

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